

A Rational Study of Analgesics and Antipyretics

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Rational Drug Cell

Medico Friend Circle



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A RATIONALITY STUDY OF ANALGESICS AND ANTIPYRETICS

Dr. Jamie Uhrig and Dr. Penny Dawson

Pain is a universal phenomenon and the development of drugs to relieve pain must be looked upon as one of the few real accomplishment of western medicine. The minor and major analgesics are important drugs in any formulary and are widely prescribed. Fever is another common symptom of disease and antipyretics are also used extensively, especially for children. In order to study what drugs are available and used for pain and fever it is useful to study the Monthly Index of Medical Specialities (MIMS), which contains many of the standard preparations and the combinations currently being promoted by the pharmaceutical industry. Before the results of this study of the analgesics and antipyretics in MIMS are presented, a few introductory comments are needed.

A World Health Organization Expert Committee has established a list of essential drugs for all countries. The list includes the following analgesics and antipyretics:

Aspirin (acetylsalicylic acid, ASA)
tablets and suppositories

Paracetamol (acetaminophen)
tablets and suppositories

Codeine : Phosphate tablets,

Pethidine : Injection,

Morphine : Injection.

Major textbooks of medicine and surgery recommend the use of these listed drugs almost exclusively. 6, 7.

Notably absent from this list are three drugs that are found in MIMS. They are the widely used analgesic analgin (metamizol, dipyrrone), and the opioid analgesics dextropropoxyphene and pentazocine.

Analgin is a minor analgesic/antipyretic that enjoys widespread popularity in India. It is an unnecessary and dangerous drug for which there are safe and inexpensive substitutes.¹¹ Analgin is not inexpensive; even generic preparations are usually five times the price of aspirin and double the price of paracetamol. It has been implicated in many cases of agranulocytosis and has been deleted from the formularies of most countries.¹ Analgin should also be banned in India. If its manufacture and sale continue to be allowed, then it should only be used when no alternative is available¹. Because most countries have banned analgin, studies have not been performed on combinations of analgin and other analgesics. These combinations cannot be recommended for use.

Dextropropoxyphene is an opioid analgesic that has relatively low addictive potential but little analgesic activity either. One study found it to be no better than placebo in the relief of moderate pain¹. In combination with aspirin for the relief of mild pain, it was found to be only as effective as aspirin and codeine⁵. The combination of dextropropoxyphene and paracetamol has been proven to be ineffective; the combination is only as effective as paracetamol alone².

Pentazocine is a newer opioid analgesic. It is an extremely expensive drug that offers no advantages over the well-known and proven major analgesics pethidine and morphine³. Pentazocine tablets are thirty times more expensive than pethidine tablets. Pentazocine should be classified as a narcotic, as there is potential for drug abuse.¹⁰

Bearing in mind the recommendations of standard textbooks, the findings of studies published in periodicals, and the

recommendations of the World Health Organization, it is possible to classify the preparations found in MIMS. The fiftynine preparations listed as analgesics and antipyretics in the July 1984 issue of MIMS India were studied; the results were graded :-

A : use of the product is justified—
14 preparations.

B : the combination is not proven
to be superior to single ingredient
preparation; and hence not reco-
mmended—
16 preparations.

C : the combination has been proven
to be inferior to single ingredient
preparation; and should be withdrawn—
11 preparations.

D : the preparation contains analgin;
and should be banned—
18 preparations.

Manu- facturer's name	Grade	Ingredients	Cost of treatment (usually 5 days)	Refe- rences
1	2	3	4	5
<u>ANADEx</u> (Concept)	D	Analgin 250 mg dextropropoxyphene —65 mg	Rs. 9.05	1, 2

Comments : This combination is of unproven efficacy. Analgin should not be used when alternatives are available; and dextropropoxyphene is no better than a placebo in combinations.

1	2	3	4	5
APIDIN (IDPL.)	C	aspirin 300 mg caffeine 30 mg codeine- phosphate 6 mg	Rs. 5.92	1, 12

Addition of caffeine or a subtherapeutic dose of codeine to Aspirin adds nothing to its effectiveness; caffeine does not potentiate the analgesic activity of aspirin but codeine can do so, if used in proper dosage.

AVAFORTON (Khandelwal)	D	avapyrazone 24 mg metamizol- analgin 240 mg per ml avapyrazone 60 mg metamizol 210 mg analgin per tab	Rs. 5.32 two in- jections Rs. 16.74	1
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This analgesic-antispasmodic combination is of unproven effectiveness, and should not be entered in the analgesic/antipyretic section of any formulary. Avapyrazone is a little-used drug and analgin should never be used when substitutes are available.

AVAMOL (Khandelwal)	B	avacan substance 50 mg systral 5 mg paracetamol 100 mg per ml	Rs. 6.02 for a bottle	1
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Like the previous preparation, this is a combination of unproven value. Avacan is a little-used drug, and analgin should never be used when substitutes are available.

1	2	3	4	5
<u>BARALGAN</u> (Hoechst)	D	analgin 500 mg p-piperidinoethoxy-o- carbmethoxybenzophenone 5 mg diphenyl-piperidinoethy- lacetamidbrom-o-methylate : 01 mg per tablet analgin 500 mg second ingredient as above 2 mg; third ingredient as above 0.02 mg. per ml.	Rs. 11.34 Rs: 2.17 for one injec- tion	1

This is an analgesic-antispasmodic preparation of unproven value. Analgin should never be used when substitutes are available.

BESEROL (Win-Medicare)	B	Paracetamol 450 mg chlormezanone 100 mg	Rs. 45.50	1, 5
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This is a very expensive unproven combination. Chlormezanone is a minor tranquilizer that is outdated and adds nothing to the effectiveness of paracetamol.

BETAFLAM (Vilco)	C	Paracetamol 400 mg dextropropoxyphene 65 mg oxyphenbutazone 100 mg diazepam 2 mg	Rs. 9.79	2
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The combination of paracetamol and dextropropoxyphene has been proven to be inferior to single ingredient preparation. Oxyphenbutazone has to be used only for very specific purposes and never to be included in fixed dose combination.

1	2	3	4	5
<u>BRAL</u> (Microlabs)	B	identical ingredients to Baralgan	Rs. 11.13	1

This preparation is identical to Baralgan that has been reviewed above.

<u>CAFIASPIRIN</u> (Bayer)	B	aspirin 300 mg caffeine 30 mg	Rs. 3.60	1,5
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The addition of a small dose of caffeine to the effective analgesic/antipyretic aspirin does not add to its therapeutic effect.

<u>CALPOL</u> (Wellcome)	A	paracetamol 500 mg tabs.	Rs. 8	1, 5, 6, 7.
		paracetamol 120 mg	Rs. 12.23 Rs. 48.90 for 5 days depending on age.	

Paracetamol has excellent analgesic/antipyretic activity. The only problem with this preparation is its high price.

<u>CODOLSIC</u> (FDC)	D	analgin 500 mg clidinium bromide 2.5 mg diazepam 2.5 mg	Rs. 10.26	1
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This combination is of unproven effectiveness. The addition of an antispasmodic and a minor tranquilizer to this analgesic does not add to its effectiveness. Analgin should never be used when substitutes are available.

1	2	3	4	5
<u>CORBUTYL</u> (Roussel)	C	dextropropoxyphene -65 mg paracetamol 650 mg	Rs. 7.63	2

The combination of paracetamol and dextropropoxyphene has been proven to be inferior to single ingredient preparation.

<u>DOLOPAR PLUS</u> (Micro Labs)	C	dextropropoxyphene -65 mg acetaminophen - (paracetamol) 400 „ diazepam : 2 „	Rs. 22.92	2
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The combination of dextropropoxyphene and paracetamol has been proven to be not superior to individual drugs given alone. Addition of minor tranquilizer to this combination does not make it more effective.

<u>EQUAGESIC</u> (Wyeth)	B	ethoheptazine- citrate 75 mg meprobamate 150 mg aspirin 250 mg	Rs. 13.95	1,5
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This combination is of unproved effectiveness. The addition of the minor tranquilizer to aspirin and ethoheptazine adds nothing to its effectiveness. The use of this minor tranquilizer, meprobamate, has been replaced by the use of newer and safer ones. Meprobamate is an addicting drug hence the use of this combination should be restricted.

1	2	3	4	5
<u>FORTAGESIC</u> (Win-Medicare)	B	Paracetamol 500 mg Pentazocine 15 mg	Rs. 62.76	1, 5, 10

Addition of 25 mg of pentazocine creates a more effective combination. But addition of 15 mg has not proved to be of any value. This is an extremely expensive combination. Pentazocine can cause addiction.

<u>FORTWIN</u> (Ranbaxy)	A	Pentazocine 30 mg injection	Maximum Rs. 39.84 per day	1, 3, 5, 10
		Pentazocine 25 mg tablet	Rs. 102.40	

This extremely expensive drug is not necessary to replace the WHO-recommended major analgesics, morphine and pethidine. Because of its addictive potential, pentazocine should be added to the narcotic formulary. Its use should be restricted to severe painful condition where other drugs are ineffective.

<u>CROCIN</u> (Duphar)	A	paracetamol 500 mg tabs.	Rs. 8.00	1, 5
		paracetamol 125 mg per 5 ml.	Rs. 2.57 to Rs. 10.30 (depending on age)	6, 7

Paracetamol has excellent analgesic/antipyretic activity. Its toxic effects are less as compared to other agents. It can be safely given in pregnancy.

<u>CUREPAR</u> (Curewel)	A	paracetamol 500 mg	Rs. 7.28	1, 5, 6, 7.
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Paracetamol has excellent analgesic/antipyretic activity.

1	2	3	4	5
CYCLOPAN (Indoco)	B	dicyclomine paracetamol diazepam	20 mg 500 mg 2.5 mg	Rs. 4.00 1,5

This combination is of unproven effectiveness. The addition of a minor tranquilizer and an antispasmodic adds nothing to paracetamol's activity.

DISPIRIN (Reckitts)	A	Aspirin calcium carbonate citric acid	350 mg 105 mg 35 mg	Rs. 7.20 1,5
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Buffered aspirin has no advantages over plain aspirin for the treatment of pain and fever. However, it can be given in patients with gastritis.

DOLOPAR (Microlabs)	D	analgin paracetamol caffeine <u>per tablet</u> analgin paracetamol per 5 ml.	250 mg 250 mg 25 mg 62.5 mg 62.5 mg	Rs. 14.68 Rs. 20.19	1
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This combination is of unproven effectiveness. Analgin should never be used when substitutes are available. Analgin should not be combined with other agents.

NORGESIC (CIPLA)	C	dextropropoxyphene paracetamol	32.5 mg 325 mg	Rs. 9.45	2
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This combination of dextropropoxyphene and paracetamol has been proven to be no more advantageous as compared to single ingredient.

1	2	3	4	5
NEOGENE (AFD)	D	analgin 200 mg paracetamol 250 mg chloropromazine 7.5 mg codeine phosphate „ caffeine 30 mg	Rs. 7.50	1,5

This combination with 5 ingredients is totally irrational; it mixes one useful analgesic/antipyretic drug with another, major antipsychotic with a minor opiate; and adds a small dose of caffeine.

NOVALGIN (Hoechst)	D	analgin 500 mg tablets analgin 500 mg/ml injection	Rs. 10.88 Rs. 26.85 to Rs. 42.75	1
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This expensive minor analgesic/antipyretic should never be used when alternatives are available.

NOVALGINE QUININE (Hoechst)	D	metamizol quinine 100 mg metamizol calcium 150 mg	Rs. 6.95	1
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The minor analgesic/antipyretic analgin should never be used when alternatives are available. The addition of quinine adds nothing to its effectiveness.

MALIDENS (Nicholas)		paracetamol 250 mg salicylamide 250 mg caffeine 25 mg	Rs. 15.15	1,5
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This combination is not proved to be superior to paracetamol alone. This combination of two analgesic/antipyretic drugs with similar actions in one tablet is not rational as it does not increase the effectiveness of either drug. Caffeine does not add to the combination's effectiveness.

1	2	3	4	5
MAZETOL (SG Pharma- ceuticals)	A	carbamazepine 200 mg	Rs. 8 to Rs. 32	3

This drug has no intrinsic analgesic/antipyretic activity and is only indicated for the specific treatment of trigeminal neuralgia and some types of seizures. It should not be included with analgesics/antipyretics in this formulary. Its indication should be clearly spelt.

MICROPYRIN (Nicholas)	B	microfine aspirin 350 mg caffeine 20 mg	Rs. 2.37	1,5
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This is an inexpensive combination of aspirin and caffeine. Caffeine adds nothing to the analgesic/antipyretic activity of aspirin.

MOLIN (Pharma Research)	A	paracetamol 125 mg/5 ml syrup	Rs. 11.70	1,5 6,7
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Paracetamol has excellent analgesic/antipyretic activity. Can be given to infants, children and pregnant women safely.

OPTALIDON with paracetamol (Sandoz)	B	butabital 50 mg aspirin 200 mg paracetamol " caffeine 40 mg	Rs. 7.84	1,5
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The combination of these two analgesic/antipyretic drugs with similar actions in one tablet is not rational, and the addition of a minor tranquilizer and the amount of caffeine found in half a cup of tea does not add to its effectiveness. Butabarbital should be removed from the combination.

1	2	3	4	5
PAMAGIN (Alkem)	D	analgin diazepam tablet	500 mg 5 mg Rs. 3.27	1
		analgin diazepam injection	500 mg 5 mg Rs. 30.50	

The minor analgesic/antipyretic, analgin should never be used when an alternative is available. The addition of a minor tranquilizer to this drug does not increase its effectiveness. The injectible form is very costly.

PARACIN (Stadmed)	A	paracetamol tablet	500 mg Price not quoted	1,5 6,7
		paracetamol 125 mg/ml. syrup	"	

Paracetamol has excellent analgesic/antipyretic activity.

PARVON (Jagson Pal)	A	dextropropoxyphene 65 mg	Rs. 9.26	1,2
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This synthetic analgesic of relatively low addictive potential has limited usefulness in the treatment of moderate pain. It is three times more expensive than the WHO-recommended major analgesic, pethidine.

PARVON-N (Jagson Pal)	C	dextropropoxyphene 32 mg paracetamol 350 mg diazepam 2 mg	Rs. 9.26	2
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The combination of dextropropoxyphene and paracetamol has been proven to be no more superior than individual agents used alone. The addition of a minor tranquilizer adds nothing to analgesic effectiveness, and has been prohibited by Govt. of India (see below).

1	2	3	4	5
PARVON-P (Jagson Pal)	C	dextropropoxyphene 32 mg paracetamol 350 „	Rs. 9.26	2

This combination has been proven to be no more superior than the individual agents.

PREDIMOL (Uniloids)	A	paracetamol 500 mg	Rs. 6.64	1,5 6,7
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Paracetamol has excellent analgesic/antipyretic activity. This is the least expensive of the paracetamol tablets available in MIMS, but it is still three times more expensive than generic preparations.

PROMALGIN (Uniloids)	D	analgin 250 mg paracetamol 250 „ caffeine 25 „	Rs. 11.04	1,5
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This combination is of unproven effectiveness. The combination of two analgesics/antipyretics with similar actions in one tablet is not rational, as it does not increase the effectiveness of either drug.

PROXYVON (Wockhardt)	C	dextropropoxyphene 65 mg acetaminophen- paracetamol 400 mg diazepam 2 mg	Rs. 11.04	1,5
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The combination of dextropropoxyphene and paracetamol has been proven to be ineffective. The addition of a minor tranquilizer adds nothing to analgesic effect and such addition has been prohibited by the Govt. of India; but the prohibition is not enforced.

1	2	3	4	5
PYRIGESIC (East India)	A	paracetamol 500 mg tablet paracetamol 125 mg/ml syrup	Rs. 8.08 Rs. 5.16	1,5,6,7

Paracetamol has excellent analgesic/antipyretic activity.

PYRISPAM (Biddle Sawyer)	B	dicyclomine 10 mg paracetamol 500 ,, chlodiazepoxide 5 mg tablet; dicyclomine 5 mg paracetamol 125mg/ml syrup	Rs. 10.52 Rs. 18.90	1,5
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These combinations are of unproven effectiveness. The addition of an antispasmodic and a minor tranquilizer to this analgesic adds nothing more to the analgesic effect. Chlordiazepoxide should be removed from the combination: as per Govt. of India decision.

RALCIDIN (Rallis)	B	paracetamol 300 mg caffeine 16 mg chlorpheniramine 1.6 mg phenylephrine 5 mg	Rs. 3.87	1,5
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The analgesic/antipyretic activity of paracetamol is not enhanced by the addition of a vasoconstrictor, an antihistamine & caffeine. This combination is irrational as an analgesic. It will be effective in allergic cold. Phenylephrine can act locally and not reliably absorbed orally.

1	2	3	4	5
SEDYN-A-FORTE D (MM Labs)	analgin diazepam diphenhydramine	375 mg 2.5 mg 20 mg	Rs. 2.51 per injection	1,5

This combination is of unproven effectiveness. The addition of a minor tranquilizer and an antihistamine to the minor analgesic/antipyretic, analgin, does not add to its effectiveness. Drowsiness will be added disadvantage of this combination. The Govt. of India has banned. The combination of tranquilizer with analgesics. But brands like Sedyn-H-Forte containing a tranquilizer combined with an analgesic are still being sold.

SOSEGON (Win-medicare)	A	Pentazocine injection	30 mg	maximum Rs. 49.08 per day	1,3 5,10
		pentazocine tablet	25 mg	Rs. 105.18 for 5 days	

This extremely expensive drug is not necessary to replace the WHO-recommended major analgesics, morphine and pethidine. The tablets are 30 times more expensive than pethidine and the injections are 10 times more expensive than pethidine. Because of its addictive potential pentazocine should be added to the narcotic formulary.

1	2	3	4	5
SPASMIZOL (IDPL)	D	homatropine methyl bromide 2.5 mg analgin 500 mg phenobarbitone 10 mg tablet	Rs. 4.93	1
	D	homatropine methyl- bromide 2.5 mg analgin 100 mg phenobarbitone 5 mg injection per ml.	price indeter- minable	
	D	methscop. 0.5 mg analgin 500 mg injection per ml.	"	

These are unproven combinations. The addition of an antispasmodic and a tranquilizer to the minor analgesic/antipyretic, analgin, does not add to its effectiveness.

SPASMO- PROXYWON (Wockhardt)	C	dicyclomine 10 mg dextropropoxyphene 65 mg acetaminophen- (paracetamol) 400 mg chlordiazepoxide 5 mg	Rs. 12.57	2
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The combination of dextropropoxyphene and paracetamol has been proven to be ineffective. The addition of a minor tranquilizer and an antispasmodic adds nothing to its effectiveness.

TUXYNE (Griffon)	B	noscopine 15 mg aspirin 300 caffeine 30 chloropheniramine 2	Rs. 4.77	1,5
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Aspirin has excellent analgesic/antipyretic activity, but the addition of an anticholinergic, an antihistamine, and caffeine adds nothing to its effectiveness. It may add to the cost of the preparation.

1	2	3	4	5
TYLENOL (Ethnox)	A acetaminophen— (paracetamol) 120 mg/5ml syrup	Rs. 4.80 (One Yr) Rs, 16.10 (Six Yrs)		1,5 6,7

The analgesic/ antipyretic activity of paracetamol is excellent but these are cheaper preparations of paracetamol syrup.

ULTRAGIN (Manners)	D analgin. 250 mg paracetamol 200 mg caffeine 25 mg (same as Promalgin)	Rs. 9. 72		1,5
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This combination is of unproven effectiveness. The combination of two analgesic/antipyretic drugs with similar actions in one tablet is not rational as it does not increase the effectiveness of either drug. Analgin should never be used when alternatives are available.

ULTRAGIN Syrup (Manners)	D analgin 62.5 mg. paracetamol 625 mg per 4 ml	Rs. 6.23 (infants) Rs. 20.55 (children)		1
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This combination is of unproven effectiveness. The combination of two analgesic/antipyretics drugs with similar actions in one preparation is not rational as it does not increase the effectiveness of either drug. Analgin should never be used when alternatives are available.

1	2	3	4	5
SUDHINOL-N COMPOUND (Ranbaxy)	C	dextropropoxyphene 100 mg paracetamol 325 mg diazepam 2 ,,	Rs. 12.86	2

This combination of dextropropoxyphene and paracetamol has been proven to be inferior to single ingredient preparation. The addition of a minor tranquilizer does not add to its analgesic effectiveness. Paracetamol alone will be cheaper and better.

TAPAL (Win-Medicare)	B	Aspirin 500 mg caffeine 30 mg	Rs. 13.12	1,5
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Aspirin has excellent analgesic/antipyretic activity ; but the same amout of caffeine is found in one third of a cup of tea and adds nothing to its analgesic/antipyretic activity. This preparation is very expensive.

TAPAL-JUNIOR (Win-medicare)	A	aspirin 75 mg	Rs. 1.21 (1-2 yrs) Rs. 9.70 (8-12 yrs)	1,4,5
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Aspirin has excellent analgesic/antipyretic activity, and this preparation is in expensive and effective for young children.

TREUPEL (German Remedies)	B	aspirin 375 mg caffeine 50 mg codeine phosphate 10 mg	Rs. 8.40	1,4,5
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The combination of aspirin and codeine in proper doses i.e. 60 mg of codeine, is superior to aspirin and is a safe combination for fever and pain. The caffeine adds nothing to its effectiveness – it is about the same amount found in half a cup of tea.

1	2	3	4	5
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ULTRAGIN INJECTION (Manners)	D	analgin lignocaine	500 mg 10 mg	Rs. 2.22 per injection	1
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Analgin is a minor analgesic/antipyretic that should never be used when alternatives are available. The addition of lignocaine to analgin does not add to its analgesic/antipyretic activity, and may simply cause allergic reactions in sensitive patients. No drug should be combined with analgin.

VEGANIN (Warner)	B	aspirin paracetamol codeine phosphate	250 mg 50 mg 5 mg	Rs. 8.50	1,5, 12
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This combination is not proven to be better than aspirin alone. The combination of two analgesic/antipyretic drugs with similar actions in one tablet is irrational; but aspirin can be combined with codeine in proper dosage to get enhanced effect.

WALAGESIC (Carter- Wallace)	C	dextropropoxyphene paracetamol diazepam	65 mg 400 mg 2 mg	Rs. 16.50	2
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The combination of dextropropoxyphene and paracetamol has been proven to be no more effective than single ingredient alone. The addition of a minor tranquilizer does not add to its analgesic effect, and such addition has been prohibited by Govt.

ZIMALGIN-A (Rallis)	A	analgin paracetamol caffeine codeine phosphate	250 mg 250 mg 15 mg 5 mg	Rs. 27.36	1
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This combination is of unproven effectiveness. The combination of two analgesic/antipyretic drugs with similar actions in one tablet is irrational as it does not increase the effectiveness of either drug. Analgin should not be used when safer alternative are available.

Comparative Prices for Equivalent Quantities of Drugs

Aspirin	generic 300 mg	Ps. 2
1	cafiaspirin (also has caffeine)	6
2	Micropyrin (also has caffeine)	7
3	Dispirin (also has citric acid, calcium carbonate)	10
4	Apidin (also has codeine, caffeine)	14
5	Tapal (also has caffeine)	19
6	Treupel (also has codeine, caffeine)	22

Paracetamol generic 500 mg	—	5.50
1 Predimol	—	16
2 Curepar	—	18
3 Crocin	—	20
3 Pyrigesic	—	20
3 Calpol	—	20

Paracetamol syrup generic 150 mg Rs. 1.20
(enough for a One year old
baby for 3 days)

1	Crocin	—	4.12
2	Pyrigesic	—	4.13
3	Tylenol	—	5.00
3	Calpol	—	5.00
4	Molin	—	5.10

Generic prices quoted above are samples only,
cheaper prices for generic preparations may be available.

It should be noted that several drugs from the WHO essential drugs list are not found at all in MIMS. Aspirin and paracetamol suppositories are not listed. Plain aspirin tablets, codeine tablets and pethedine and morphine injections are also not in the current MIMS, but are available by their generic names in the market. One combination that is notable by its absence in MIMS, is paracetamol and codein. Like the combination of aspirine and codein, paracetamol and codein is another combination that has been shown to be more effective than either drug alone. Although there are serious omissions of essential drugs from MIMS, some of the nineteen preparations listed as 'justified' can be recommended for use. Aspirin for children is available as Tapal-Junior. The least expensive paracetamol preparations are Predimol tabs and Crocine syrup. Apidine and Treupel are aspirin, codeine and caffeine preparations that can be recommended for mild to moderate pain.

A Government policy for provision of all essential analgesics and antipyretics at low-cost and the banning of ineffective preparations and analgin would be a 'healthy first step' in forming a 'Rational Drug Policy for the country.'

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Kerala Sastra Sahitya Parishad Demands

- Urgent steps for production and distribution of Essential and life saving drugs at low cost.
 - Immediate ban on the imports and production of non essential and hazardous drugs.
 - Strict quality control of drugs.
 - Implimentation of the Hathi committee recommendations.
 - Implimentation of a People's Drug Policy.
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All India Drug Action Network....

This Study is a part of the work of the All-India Drug Action Network (AI-DAN). AI-DAN is a loosely knit network of more than ten groups/organizations from different parts of the country committed to oppose the irrationalities in the production and use of drugs in India and to foster a Rational Drug Policy.
